OSI

NEW PERSONNEL ORIENTATION GUIDE

CLASSIFIED

OMEGA

Neural Cybertank
Design and Simulation

DOCUMENT BRIEF
This Orientation Guide provides an overview of security procedures and introduces the computer-aided cybertank development tools utilized by cybertank engineers.

INTRODUCTION

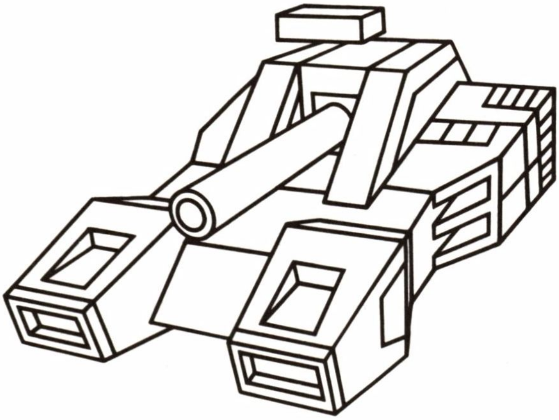


Diagram 0.1 -- Holographic cybertank

Welcome to The Organization of Strategic Intelligence (OSI), the leading developer of military and law enforcement cybernetic applications.

As a qualified cybernetics engineer, you have been assigned to an elite team involved in the critical military contract, **OMEGA**. This project expands the boundaries of cybernetics technology and development.

Your job is to create the most powerful cybernetic tank (cybertank) possible. You will have access to the most sophisticated computer-aided design tools available. You will design your cybertank's chassis, including its body class, drive system, fuel capacity, primary weapon and electronic instrumentation. Using the specially designed Cybertank Command Language, you will design your cybertank's artificial intelligence, giving it the ability to track down and destroy an enemy. You will then test your cybertank's performance on a simulated field of combat against cybertanks designed by your peers.

Your entry-level security clearance designation is **STANDARD**. There are ten clearance levels within the OMEGA project. Promotions to higher levels are based on the efficiency of your cybertank designs, demonstrated in successful combat simulations (at least a 70% win ratio). You can request a formal clearance evaluation at any time. Your project director will evaluate the design of your choice, and you will be promoted if the design meets with their criteria.

Engineers with **STANDARD** Clearance are allocated a budget of 1000 credits. Each successive clearance level increases your budget by 1000 credits. Credits are used to purchase components for your cybertank's chassis. Thus, larger budgets provide access to the components you will need for more sophisticated designs. Employees attaining the highest clearance level will be allotted an unlimited budget, and only their cybertank designs will be considered for military applications.

As a top priority military contract, it is crucial that only the best designers be assigned to OMEGA. You are among the best in your field. Your involvement is expected to ensure that we meet and exceed project goals.

We are proud to have you as a member of our organization.

SECTION 1

OSI SECURITY ENTRANCE PROCEDURE

SECTION BRIEF

This section outlines procedures necessary for admittance to The Organization of Strategic Intelligence's high security complex (shown below).

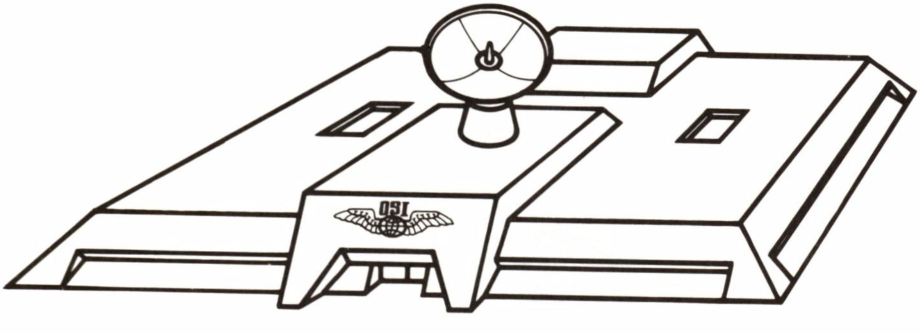
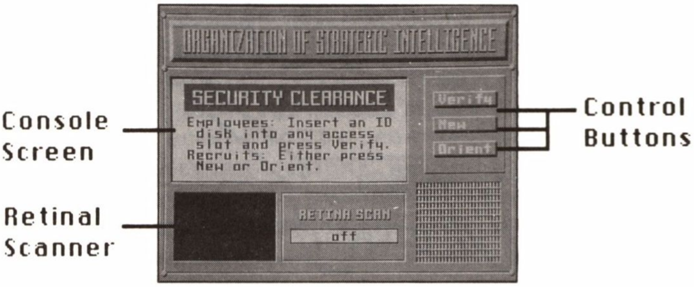


Diagram 0.2 -- OSI complex

1.1 NEW PERSONNEL ADMITTANCE

1.1.1 SECURITY ENTRANCE CONSOLE

Diagram 1.1.1 illustrates the components of OSI's Security Entrance Console located in the recess to the right of the complex entryway.



Employees: Insert an ID disk into any access slot and press Verify.
Recruits: Either press New or Orient.

Diagram 1.1.1 -- OSI Security Gate

1.1.2 ID DISC

NOTE

Refer to subsection 1.2 "STANDARD ADMITTANCE" if you already have an imprinted ID Disc.

New personnel are required to procure a blank **ID Disc** (also referred to as a **diskette**) suitable for imprinting personal identification data. Once imprinted, your personal ID Disc is used to gain admittance to the OSI Security Complex. Your ID Disc is also used for electronic storage of all your records and files, including your current clearance level and project data. You are expected to keep your ID Disc on your person at all times.

As a new employee of OSI, the ID Disc imprinting process automatically transfers special orientation information to your ID Disc. This information will be used in conjunction with this orientation guide for demonstration purposes. If you should ever need a new ID Disc, use the **NEW** option.

NOTE: Throughout this Orientation Guide, any specific instructions which you should follow will be set off by a ">>>" symbol. Any instructions which are preceded by this symbol should be carried out immediately.

1.1.3 ID DISC IMPRINTING

>>>To imprint your personal ID Disc (also called **initializing** or **formatting**), click on the control button labeled **ORIENT** (refer to the **OSI/CACD System 2 Reference Card** for keyboard control of the security console).

>>>If your terminal is not equipped with a High Capacity Storage Device, (also known as a hard drive), then insert your blank ID Disc into any access slot (also referred to as **disk drive**.)

>>>Click on the **SLOT** button to select the location of your Employee ID Disc. At this point the File Retrieval Panel (FRP) will appear. Please select the access slot containing the disc to be used for imprinting (refer to your **OSI/CACD System 2 Reference Card** for keyboard control of the FRP).

>>>If your terminal is equipped with a High Capacity Storage Device, then your ID information can be stored on it by selecting that device.

NOTE: The High Capacity Storage Device will not be imprinted (or formatted). The ID information will be placed into a separate folder, thus allowing multiple users to access the same High Capacity Storage Device. Also note that any uses of the term "ID Disc" in the OMEGA manuals refers to your ID FOLDER. All of your personnel files are stored in your ID folder.

NOTE: For users of Commodore 64 and Apple //+,c,e terminals only:

After selecting the **ORIENT** button, one of the access slots will activate and attempt to read the disc it contains. The name of the disc (if it has one) will then appear on the console screen.

>>>Click on the **SLOT** button until the access slot that contains your ID Disc is activated. When the proper access slot is activated, click on the **CREATE** button to continue the imprinting procedure.

1.1.4 NAME AND PASSWORD

>>>Enter your name and desired password when prompted to do so on the console screen.

Leave the password blank if you do not care to protect against unauthorized access to the data on your ID Disc.

**** WARNING ****

Once entered, your password is inaccessible. Without your password you will not be able to use your ID Disc to gain admittance to OSI and all data stored on your ID Disc will be lost.

>>>After your name and password are entered, follow the instructions on the console screen to begin imprinting.

1.1.5 RECORDING RETINA PATTERN

After the initial imprinting stage, your retina pattern is recorded for future identity verification. Admittance to OSI requires password and retina pattern verification from your imprinted ID Disc.

>>>To record your retina pattern, look into the retinal scanner (refer to Diagram 1.1.1 for location of retinal scanner on security console) and follow the instructions on the console screen.

1.1.6 SUMMARY

This completes the NEW PERSONNEL ADMITTANCE procedure. Entry to OSI will be approved pending the correct execution of this procedure and the proper cross-referencing of your data with OSI's NEW PERSONNEL files.

You may skip the next subsection (1.2 STANDARD ADMITTANCE). It deals with personnel admittance using existing ID Discs.

1.2 STANDARD ADMITTANCE

1.2.1 PERSONNEL IDENTIFICATION

NOTE

Refer to subsection 1.1 NEW PERSONNEL ADMITTANCE if you do not have an imprinted personal ID Disc.

Admittance to OSI requires password and retina pattern verification from your personal ID Disc.

>>>To initiate the verification process, press the **VERIFY** button (refer to the **OSI/CACD System 2 Reference Card** for keyboard control of the security console).

>>>Use the **LOCATE** button to select the access slot in which your ID Disc is located. If you are using a High Capacity Storage Device, then you must also select which employee is to be verified.

> **NOTE: For users of Commodore 64 and Apple //+,c,e terminals only:**
>
> After pressing the **VERIFY** button, the **OSI/CACD System 2** will automatically search the available access slots for the presence of an ID Disc. You will be notified if an ID Disc is not found in any of the access slots.

1.2.2 PASSWORD VERIFICATION

>>>Enter your password when prompted to do so. Leave the password blank if you did not enter one when your ID Disc was imprinted. Follow the instructions on the console screen to perform verification.

1.2.3 RETINA PATTERN VERIFICATION

Once your password has been verified, you will be prompted for retina pattern verification.

>>>Look into the retinal scanner and follow the instructions on the console screen to initiate verification.

1.2.4 SUMMARY

This completes the STANDARD ADMITTANCE procedure. Entry to OSI will be approved pending the correct execution of this procedure and the verification of your password and retina pattern with that imprinted on your personal ID Disc.

SECTION 2

OSI/CACD SYSTEM 2 ENVIRONMENT

SECTION BRIEF

This section briefly describes the modules comprising the OSI/CACD System 2 environment and provides a hands-on demonstration of the systems. Please consult the Engineer's Handbook for a more detailed description of these modules.

2.1 GENERAL DESCRIPTION

2.1.1 SYSTEM MODULES

The OSI/CACD System 2 represents the latest in Computer Aided Cybertank Design. This system consists of the External Control Module, the Chassis Design Module, the Artificial Intelligence (AI) Module, the Cybertank Test Module, the Battlefield Design Module, the Combat Simulation Module, the Simulation Design Module and the Data Duplication Module.

2.1.2 SYSTEM DEMONSTRATION

The demonstration in this orientation guide uses a predesigned cybertank to illustrate the development of the cybertank's chassis, the artificial intelligence associated with it, and the actual combat simulation where you will witness the cybertank's performance.

2.2 HUMAN INTERFACE

2.2.1 INTERFACE DEVICES

The OSI/CACD System 2 incorporates the latest in human interface technology. The system is designed for optimum efficiency when using a mouse or joystick. The system also supports a keyboard interface.

2.2.2 KEYBOARD INTERFACE

The OSI/CACD interface allows complete control using a keyboard. Refer to the **OSI/CACD System 2 Reference Card** for the keyboard commands that pertain to your terminal type.

2.2.3 THE POINTER

The **pointer** is a hand-shaped object moved about the screen with a mouse or joystick. It is used to select specific items (see Diagram 2.2.6).

> **NOTE: For users of Commodore 64 and Apple //+,c,e terminals only:**
>
> The **pointer** is a triangular shaped object.

2.2.4 CLICKING

Selections are often made by moving the pointer to the desired object or option and pressing and releasing the mouse or joystick button. This is referred to as **clicking**.

2.2.5 DRAGGING

Dragging is used to select objects or text. Place the pointer in a position marking the start or end point of the selection. **Press and hold** the button, and drag the pointer until you have highlighted the desired selections. Release the button.

2.2.6 PULL-DOWN MENUS

At the top of the screen is the **menu bar** (see Diagram 2.2.6). A menu is **pulled down** by placing the pointer over the menu title and depressing the button. This reveals a list of menu **items**. Menu items are selected by dragging the pointer down the list (the button must be held down). As the pointer passes over each menu item, the item is highlighted. When the desired item is highlighted, it is selected by releasing the button (see Diagram 2.2.6).

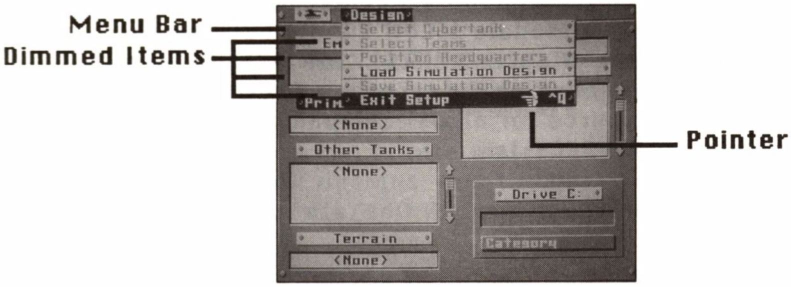


Diagram 2.2.6 -- Pull-down menu with dimmed items

2.2.7 DIMMED ITEMS

Occasionally, some menu items appear less distinct than others. Less distinct items are referred to as **dimmed.** Dimmed items cannot be selected (see Diagram 2.2.6).

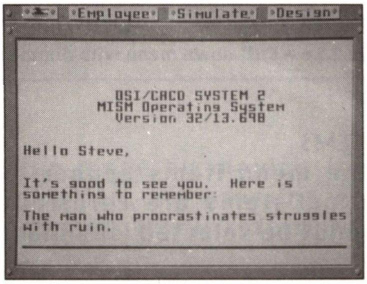
2.2.8 SUMMARY

The OSI/CACD interface is designed for ease of use. The interface is extremely intuitive and requires minimal training time. If you think something can be clicked on or pulled down, try it. You will often find that it can be.

2.3 THE DEMONSTRATION

2.3.1 EXTERNAL CONTROL MODULE

The External Control Module (ECM) should be displayed on your terminal (see Diagram 2.3.1). The ECM serves two purposes: 1) it is your link to all other OSI/CACD modules, and 2) it is your source for all OSI company announcements and world news broadcasts.



```
OSI/CACD SYSTEM 2
MISM Operating System
Version 32/13.698

Hello Steve,

It's good to see you.  Here is
something to remember:

The man who procrastinates struggles
with ruin.
```

Diagram 2.3.1 -- External Control Module (ECM)

2.3.2 EMAIL

Important company announcements and world wide news broadcasts are distributed via electronic mail (EMAIL). The various news wires connected to the OSI/CACD System 2 network are:

(ANA)	American News Agency
(MER)	Middle East Report
(EPI)	Eurasian Press International
(LJS)	London Journalistic Society
(NAPS)	North American Press Service
(SDE)	Soviet Data Exchange
(GJN)	Global Journalism Network

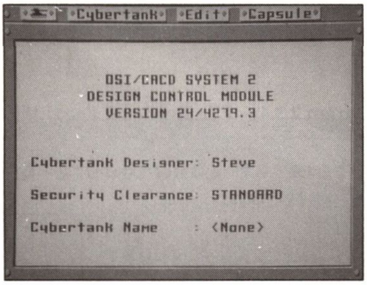
It is mandatory that all OSI personnel monitor their electronic mail messages.

2.3.3 DESIGN CONTROL MODULE

In this demonstration, we will bypass the creation of a cybertank and use the predesigned cybertank design, **VIPER**; however, we will step through all of the modules used in designing cybertanks.

>>>Select **DESIGN CYBERTANK** from the **DESIGN** menu to link to the **Design Control Module (DCM)**.

From the DCM, you can create new cybertank designs, load existing cybertank designs, delete cybertank designs from your ID Disc, or create/edit AI Capsules (see Diagram 2.3.3).



```
OSI/CACD SYSTEM 2
DESIGN CONTROL MODULE
VERSION 24/4279.3

Cybertank Designer: Steve

Security Clearance: STANDARD

Cybertank Name    : <None>
```

Diagram 2.3.3 -- Design Control Module (DCM)

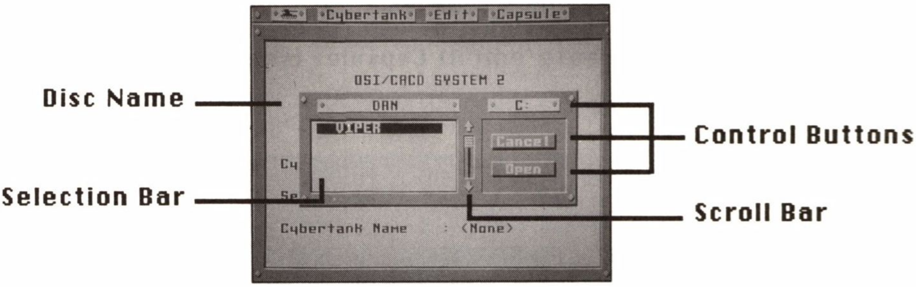
2.3.4 LOAD VIPER

Chassis design is the first step in the development of a cybertank. In this demonstration we will use the previously created cybertank design, **VIPER**.

SPECIAL NOTE

Most terminals at OSI are equipped with multiple access slots or High Capacity Storage Devices (HCSD). Special instructions will appear on your screen if your terminal is equipped with only one access slot.

>>>To load **VIPER**, select **LOAD** from the **CYBERTANK** menu. When the **FILE RETRIEVAL PANEL (FRP)** appears (see Diagram 2.3.4), the **SELECTION BAR** will be on VIPER. Click the **OPEN** button to load VIPER from your ID Disc (for keyboard control of the FRP, refer to the OSI/CACD System 2 Reference Card).



Cybertank Name : <None>

Diagram 2.3.4 -- File Retrieval Panel (FRP)

NOTE: For users of Commodore 64 and Apple //+,c,e terminals only:

The File Retrieval Panel (FRP) will have a **LOAD** button instead of an **OPEN** button. The **LOAD** button is functionally identical to the **OPEN** button used on other terminal types.

The FRP will also have a **SLOT** button instead of a **DRIVE** button. The **SLOT** button is functionally identical to the **DRIVE** button used on other terminal types.

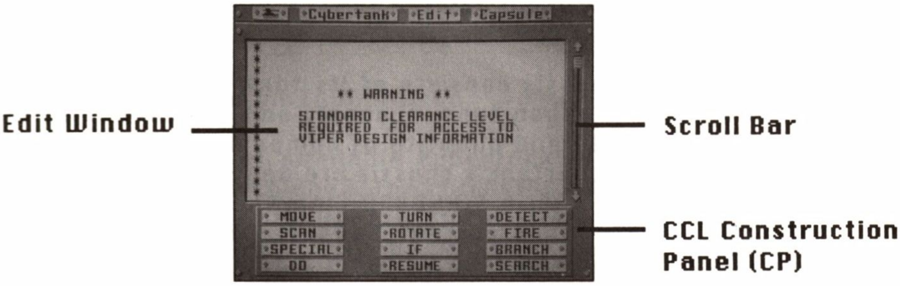
2.3.5 ARTIFICIAL INTELLIGENCE MODULE

When you load an existing cybertank design from your ID Disc, you are automatically linked to the AI Module (see Diagram 2.3.5). This module is used to create your cybertank's brain, where you impart the analytical logic required to terminate the enemy. Language designers at OSI have developed a special **Cybertank Command Language** (CCL) to facilitate the creation of AI .

>>>Displayed in the **EDIT** window are the opening lines of VIPER's artificial intelligence. Click on the **Scroll-Bar** at the right of the **EDIT** window (see Diagram 2.3.5) to scroll through VIPER's AI.

> **NOTE: For users of Commodore 64 and Apple //+,c,e terminals only:**
>
> >>>Instead of the **Scroll-Bar**, the **SCROLL ARROWS** at the right of the EDIT window are used to scroll though the lines of AI.

As you can see from scanning VIPER's AI, CCL comprehension is maximized by modeling it after the English language.



** WARNING **

STANDARD CLEARANCE LEVEL
REQUIRED FOR ACCESS TO
VIPER DESIGN INFORMATION

Diagram 2.3.5 -- AI Module

The AI Module contains a full-featured text editor. Commands can be entered directly from the keyboard or with the **CCL Construction Panel (CP)** (see Diagram 2.3.5). The CP is used to automatically and quickly construct a command line by clicking on the command buttons. Once entered, text can be edited using the cut, copy, paste, insert, or delete options.

AI design can be facilitated using predesigned **AI Library**

Capsules. Library Capsules are self-contained segments of artificial intelligence that perform isolated functions. OSI provides a number of Library Capsules that greatly simplify the task of designing your cybertank's AI. For example, instead of designing the AI that instructs your cybertank to move around an indestructible building, you can simply use one of the movement Library Capsules that instructs a cybertank to avoid obstacles.

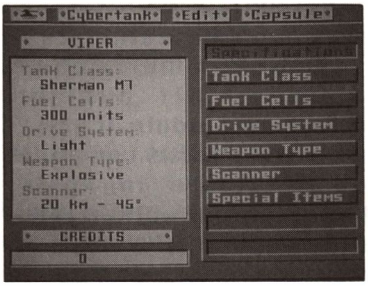
Experiment with modifying or entering text with the CP and/or keyboard, but be careful not to save the changes to VIPER back to your ID Disc.

2.3.6 CHASSIS DESIGN MODULE

When creating a new cybertank, the DCM automatically links to the **Chassis Design Module (CDM)**. In this demonstration, the cybertank design, VIPER, was loaded and the DCM automatically linked to the AI Module. The AI Module can link to the CDM in order to view or modify a cybertank's chassis.

>>>Select **CHASSIS** from the **CYBERTANK** menu to link to the Chassis Design Module.

A cybertank's chassis consists of its tank class, fuel cells, drive system, weapon type, scanner, and assorted special items. The quality and quantity of components that can be added to your cybertank's chassis are dependent upon your budget. Engineers with STANDARD Clearance have a budget of 1000 credits. Your current budget is displayed in the **CREDITS Display Area** (see Diagram 2.3.6)



VIPER

Tank Class:
Sherman M7
Fuel Cells:
300 units
Drive System:
Light
Weapon Type:
Explosive
Scanner:
20 Km - 45°

CREDITS
0

Diagram 2.3.6 -- Chassis Design Module (CDM) with VIPER loaded

VIPER's general specifications are displayed in the **Main Display Area** (see Diagram 2.3.6). To modify a cybertank's chassis, click the desired **Component** button on the right side of the screen. A list of options for that component will then be displayed.

>>>Click the **Weapon Type** button.

A complete list of available cybertank weapons, and the cost of each, is displayed. The currently selected weapon is designated by a highlighted circle. Items which are too expensive to select will be dimmed and unselectable. Clicking on the "None" selection deselects the currently selected weapon and its cost is returned to your budget.

NOTE: For users of Commodore 64 and Apple //+,c,e terminals only:

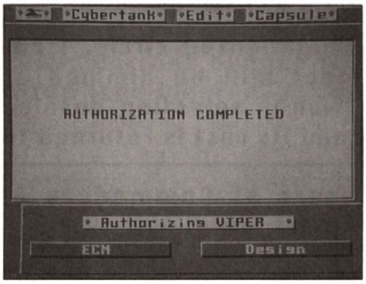
A diamond appears next to the currently selected weapon. Selecting a weapon automatically subtracts that weapon's cost from your budget. Clicking on a selected weapon "deselects" it and its cost is returned to your budget. Also note that items which are too expensive are NOT dimmed.

Feel free to experiment with modifying VIPER's components, but be careful not to save the changes back to your ID Disc.

2.3.7 CYBERTANK AUTHORIZATION

A cybertank design must be authorized before it can be approved for combat simulations. For expedient authorization, your project directors designed the Cybertank Authorization Module (CAM). Cybertanks must have all the fundamental chassis components and be free of illegal command structure in their AI to receive authorization. Without proper authorization, cybertanks are denied access to the Combat Simulation Module. You will be informed of any cybertank design flaws during the authorization procedure.

>>>Authorization can be performed from either the CDM or the AI Module. Before authorizing VIPER, reload it to override any changes you may have made to it (for loading instructions, refer to **Section 2.3.4 LOAD VIPER**). If the OSI/CACD System 2 asks if you want to save the changes to VIPER, select **NO**. Once VIPER is reloaded, select **AUTHORIZE** from the **CYBERTANK** menu.



AUTHORIZATION COMPLETED

Diagram 2.3.7 -- Cybertank Authorization Module (CAM)

The CAM will be displayed on your terminal (see Diagram 2.3.7). After a brief pause, VIPER will be approved.

After authorization is complete, a cybertank design can be further edited by clicking the **DESIGN** button at the bottom of the screen; otherwise, as is more often the case, you can link directly back to the External Control Module by clicking the **ECM** button.

>>>Click the **ECM** button.

2.3.8 COMBAT SIMULATION MODULE

The efficiency of your cybertank design becomes apparent in the **Combat Simulation Module (CSM)**. **Melee** (free-for-alls) or **Team** combats can be simulated. Team simulations offer alternate objectives: 1) **Absolute Termination** - destroy all cybertanks on the opposing team, or 2) **Headquarters Termination** - destroy the opposing team's headquarters.

>>>A predesigned combat simulation has been provided for your orientation. Select **START A SIMULATION** from the **SIMULATE** menu. When the FRP appears, the SELECTION BAR will be on the **ORIENTAT** simulation. Click the OPEN button to load **ORIENTAT** from your ID Disc (refer to the OSI/CACD System 2 Reference Card for keyboard control of the FRP).

> **NOTE: For users of Commodore 64 and Apple //+,c,e terminals only:**
>
> >>>A predesigned combat simulation has been provided for your orientation. Select **START A SIMULATION** from the **SIMULATE** menu. When the FRP appears, the SELECTION BAR will be on the **ORIENTATION** simulation. Click the LOAD button to load **ORIENTATION** from your ID Disc (for keyboard control of the FRP, refer to the OSI/CACD System 2 Reference Card).

Combat begins automatically once the preselected battlefield and cybertanks are loaded from your ID Disc. This simulation is a melee combat between VIPER and three clones of itself. The battlefield is called **SMALL**.

>>>Press the **PAUSE** key to suspend the simulation (refer to the OSI/CACD System 2 Reference Card for the appropriate key for your terminal type).

While the simulation is suspended, familiarize yourself with the **Instrument Panel** displayed on the right side of your terminal (see Diagram 2.3.8).

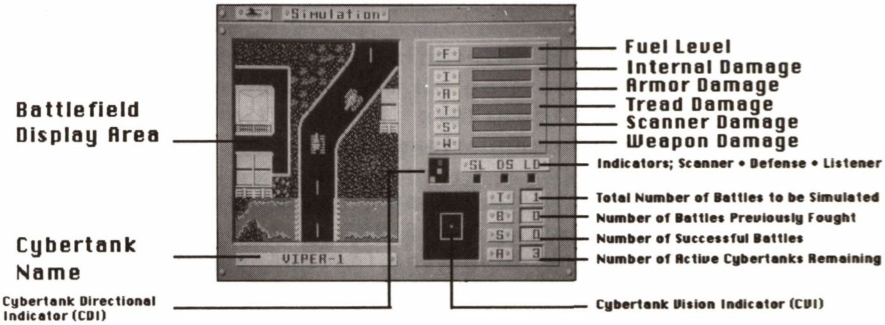

Simulation
Battlefield Display Area
Cybertank Name
VIPER-1
Cybertank Directional Indicator (CDI)
F
I
A
T
S
W
SL DS LD
T 1
B 0
S 0
A 3
Fuel Level
Internal Damage
Armor Damage
Tread Damage
Scanner Damage
Weapon Damage
Indicators; Scanner • Defense • Listener
Total Number of Battles to be Simulated
Number of Battles Previously Fought
Number of Successful Battles
Number of Active Cybertanks Remaining
Cybertank Vision Indicator (CVI)

Diagram 2.3.8 -- Combat Simulation Module (CSM)

The instrument panel displays your cybertank's fuel level, current damage, status of special components, scanned cybertanks, and simulation results.

The **Battlefield Display Area** on the left side of your terminal presents an overhead view of a portion of the battlefield. The selected cybertank is centered in the combat viewport with its name displayed below. Other cybertanks can be selected with the simulation either active or suspended. Destroyed cybertanks appear as craters or piles of junk when selected.

>>>Press the **Cybertank Selection Keys** on your terminal to select another cybertank for viewing (refer to the OSI/CACD System 2 Reference Card for the appropriate keys for your terminal type).

>>>Press the **PAUSE** key again to continue the simulation (refer to the OSI/CACD System 2 Reference Card for the

appropriate key for your terminal type).

>>>It is often necessary to see the entire battlefield at once. In order to do this, select **SATELLITE VIEW** from the **SIMULATION** menu.

A simulated transmission from the orbiting **OSICOM I** satellite is displayed in the combat window. Active cybertanks are indicated by the flashing blips.

Clicking the mouse button will return you to the normal combat view. This simulation can be viewed in full speed from the satellite view (i.e., the simulation does not have to be paused to view the satellite transmission.)

NOTE: For users of Commodore 64 and Apple //+,c,e terminals only:

The currently selected cybertank is surrounded by a solid box which outlines the area of the battlefield last shown in the **Battlefield Display Area**.

The simulation cannot be viewed in full speed from the satellite view. When the OSICOM I satelitte is activated, all cybertanks will pause in their current positions and remain paused until the normal viewing mode is reactivated.

You must press a key in order to return to normal combat view.

Relax and observe the combat. Simulation times vary depending upon random positions of the cybertanks. This demonstration simulation should take from 30 to 60 seconds. You are notified when the simulation ends and the results are automatically recorded on your ID Disc. If you wish to observe another combat, select **RESTART** from the **SIMULATION** menu.

>>>When the simulation is completed and you are finished viewing the CSM, return to the ECM by selecting **EXIT SIMULATION** from the **SIMULATION** menu.

2.4 ORIENTATION SUMMARY

2.4.1 CONCLUSION

This concludes your introduction to the OSI/CACD System 2 environment. You should now be familiar with the External Control Module, the Design Control Module, the Chassis Module, the Artificial Intelligence (AI) Module, and the Combat Simulation Module.

For complete information concerning the OSI/CACD System 2 environment, refer to the **Cybertank Engineer's Handbook**. The handbook is divided into six sections. The first section is a Training Guide that covers the complete design of a cybertank. Experienced engineers may wish to skip the Training Guide and proceed directly to the reference sections. The second and third sections present detailed descriptions of the modules comprising the OSI/CACD System 2 environment and the complete structure of the Cybertank Command Language. Section four explains and details how to use predefined AI Library Capsules, which greatly simplify the creation of a cybertank's AI. Section five explores all of the possible combat variations and discusses such features as the communications link and manually controlled cybertanks. Section six is a trouble shooting guide.

Once again, we stress that OMEGA is a top priority military contract that pushes the limits of cybernetics technology. Please do not hesitate to express any questions or comments to your project directors. We are confident of your ability to contribute to this project and look forward to your long and productive career with the Organization of Strategic Intelligence.

Diagram 0.3 – OSI corporate logo

NOTES

ORIGIN™

ORI-3102